

Glucosamine & Chondroitin

What is Glucosamine & Chondroitin?

Glucosamine is an amino sugar which exists in our body in form of proteoglycans.^[1,2] Proteoglycan is found in articular cartilage and other connective tissues.^[1,2] Its viscoelastic property keeps large amount of water in cartilage, and makes glucosamine a key component of articular cartilage.^[1,2]

Chondroitin is an important structural component of cartilage and provides much of its resistance to compression.^[3,4] It is a complex carbohydrate that helps cartilage to retain water.^[5] It may also block enzymes that break down cartilage, and provide building blocks for the body to produce new cartilage.^[3-5]

Glucosamine commonly exists as Glucosamine Sulfate or Glucosamine Hydrochloride. It is commercially available with Chondroitin Sulfate to restore damaged joints, slow down degeneration of cartilage tissue and help maintain normal joints.^[1-17]

Articular Cartilage – Bumper for the Joints

Cartilage provides a low-friction surface that covers the ends of the bones.^[1] It has viscoelastic properties that provide lubrication during motion, shock absorbency, and load support.^[1,5-7] Hence, normal and healthy articular cartilage will enable smooth joint movement, prevent damage of bone by friction and weight, and stabilize position of bones and joints.

Why do we need Glucosamine & Chondroitin?

Cartilage is mainly composed of water, which its level decreases with age. About 85% of cartilage is water in young people, while it drops to about 70% water in older people.^[8] With decrease of water content, the cartilage become harder.^[1,6,8] This explains why joint movements usually become less smooth as we age.

Injury or degenerative joint diseases, e.g. osteoarthritis, will accelerate the damage or erosion of cartilage tissues and the loss of water from cartilage. Eventually, cartilage will be destroyed and lose its functions.^[1-17] Without the protection from cartilage, the ends of the joint bones will have bony overgrowth and often inflame due to the body autoimmune response to the damage.^[2,7] Consequently, the joints swell, and the patients would have stiff and painful joints.^[1,13-14]

Deficiency of Glucosamine and Chondroitin may cause:

- Osteoporosis^[15]
- Adhesive capsulitis^[16]
- Hip osteoarthritis^[2,3,6,9,14]
- Sport injuries and ligament inflammation^[7-9]
- Lumbar spine dislocation^[8]
- Degeneration of spinal column, vertebral bone and knee canopy^[8]
- Stiff and pain of joint^[1-4,7-17,19,20]
- Inflammation of fingers and wrists^[4,16]
- Joint pain due to over-working^[6,7]
- Varicose veins^[18]

Significant effects observed for continued intake of 3 to 6 months or above:

- Relieve pain, inflammation and swelling^[1-4,7-20]
- Enhance recovery of articular cartilage and slow down cartilage degeneration^[1-17]
- Supplement for synovial fluid^[2,7]
- Strengthen the flexibility of joints^[1-17]
- Enhance walking ability^[1-17,19]
- Promote wound healing^[15,17]
- Promote blood circulation^[4,8]

Recommended daily dose:

Adults take 1 - 2 tablets daily or as recommended by physicians.



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